



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,760	07/19/2005	Marc Rene Christian Budinger	0501-1124	1129
466	7590	09/28/2007		
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			EXAMINER GORDON, BRYAN P	
			ART UNIT 2834	PAPER NUMBER
			MAIL DATE 09/28/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/525,760	Applicant(s) BUDINGER ET AL.	
	Examiner Bryan P. Gordon	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2834

4. Claims 1-10 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honda (EP 0299415) and in view of Tsukimoto (EP 0538791).

5. Consider claim 1, Honda teaches (Figure 7) piezoelectric motor comprising a stator fixed to a frame of the motor (col. 1 lines 1-5), the said stator comprising electroactive components stacked in said principal direction, surrounded by two counter-weights (18,19) characterized in that said stator has geometric dissymmetry in order to create resonance dissymmetry (col. 7 lines 9-11).

However, Honda does not teach the motor designed to bend and electroactive components.

In the same field of endeavor, Tsukimoto teaches (Figure 3) the motor designed to bend (abstract) and the electroactive components (d1 – d6) for the benefit of vibrating the stator.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a motor designed to bend and electroactive components with Honda's device for the benefit stated above.

6. Consider claim 2, Tsukimoto teaches that the electroactive components are piezoelectric ceramics (col. 1 lines 24-26).

7. Consider claim 3, Honda teaches the geometric dissymmetry is obtained by means of a dissymmetrical method of fixing the stator to the frame (col. 7 lines 9-11).

8. Consider claim 4, Honda teaches the geometric dissymmetry is obtained by means of the use of anisotropic materials for the stator (col. 7 lines 9-11).

Art Unit: 2834

9. Consider claim 5, Honda teaches (Figure 11) the geometric dissymmetry is obtained by means of a dissymmetrical shape of the stator, and particularly a dissymmetrical shape of the counter weights (18, 19, col. 7 lines 7-9).

10. Consider claim 6, Honda teaches the claimed, as described above in claim 5, except for the piezoelectric ceramics in the form of wafers.

In the same field of endeavor, Tsukimoto teaches the piezoelectric ceramics in the form of wafers (col. 1 lines 30-36). It would have been obvious to make a wafer out of a piezoelectric ceramic material because one skilled in the art would know that is a well known material.

11. Consider claim 7, Honda teaches the claimed, as described above in claim 5, except for two respective axial planes.

In the same field of endeavor, Tsukimoto teaches the two respective axial planes (abstract) for the benefit of bending the stator.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include two respective axial planes with Honda's device for the benefit stated above.

12. Consider claim 8, Honda teaches that each wafer comprises around an axis of rotation of the rotor, sectors of piezoelectric material with alternate axial polarity, arranged so that each of the sectors on a first wafer is at least partly opposite a sector with the opposite polarity on another wafer (col. 4 lines 9-13).

13. Consider claim 9, Tsukimoto teaches the two axial planes form an angle approximately equal to 90 degrees (col. 1 lines 40-42).

Art Unit: 2834

14. Consider claim 10, Tsukimoto teaches that the stator comprises wafers that are approximately identical in shape to each other (col. 1 lines 30-36), so that for two respective median planes defined identically for each of the wafers independently, the two median planes form a 90 degree angle to each other, and a first of the axial planes of the counter weights is co-planar with a first of the median planes, and respectively, a second of the axial planes is co-planar with a second of the median planes (col. 1 lines 40-42).

15. Consider claim 11, Tsukimoto teaches the stator comprises wafers that are approximately identical in shape to each other (col. 1 lines 30-36), so that for two respective median planes defined identically for each of the wafers independently, the two planes form a 180 degrees angle to each other and the axial planes form a 45 degree angle to the median plane (col. 3 lines 14-18)

16. Consider claim 12, Tsukimoto teaches (Figure 3) a single-phase power supply (a sin wt) that comprises an earth (ground) and a phase, so that the phase is connected to an interface between two wafers and the earth is connected to surfaces of said wafers respectively opposite the said interface, or so that the earth is connected to an interface between two wafers (d2, d4) and the phase is connected to surfaces of said wafers respectively opposite said interface.

17. Consider claim 13, Tsukimoto teaches the claimed, as described above in claim 12. It would be obvious to one of ordinary skill in the art to use a transformer with a power supply to convert the voltage to a lower value.

Art Unit: 2834

18. Consider claim 14, Honda teaches (Figure 7) piezoelectric motor comprising a stator fixed to a frame of the motor (col. 1 lines 1-5), the said stator comprising electroactive components stacked in said principal direction, surrounded by two counter-weights (18,19) characterized in that said stator has geometric dissymmetry in order to create resonance dissymmetry (col. 7 lines 9-11)

However, Honda does not teach the motor designed to bend and electroactive components.

In the same field of endeavor, Tsukimoto teaches (Figure 3) the motor designed to bend (abstract) and the electroactive components (d1 – d6) for the benefit of vibrating the component.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a motor designed to bend and electroactive components with Honda's device for the benefit stated above.

19. Consider claim 15, Tsukimoto teaches an intermediate usage frequency with two respective resonance frequencies of two bending modes characteristic of the resonance dissymmetry is used for the power supply (col. 6 lines 15-21).

20. Consider claim 16, Tsukimoto teaches (Figure 3) a power supply (a sin wt) frequency is used that is more particularly selected so that the phase difference between the two bending modes is 90 degrees (col. 1 lines 40-42).

Conclusion

Art Unit: 2834

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan P. Gordon whose telephone number is 571-272-5394. The examiner can normally be reached on Monday-Thursday 8:00-5:30, Friday 7:30-4:00.

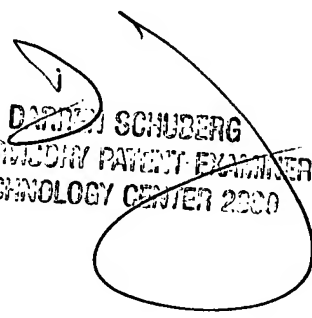
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BG

BG

9/18/07


DARREN SCHUBERG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800